Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-23. Cancelled.

24. (Original) A process of separating oil soluble exudates and extractable materials from living plant tissue comprising:

supplying a source of cultivated plant tissue to a separation vessel;

introducing into said vessel a separation medium having at least two phases;

intermixing said two phases into a plurality of plates, said intermixing in responses to an intermittent oscillation of said cultivation vessel;

exposing said plant material to said plurality of phase plates, thereby extracting from said tissue material oil-soluble exudates and extracts;

separating said separation medium into two phases; and,

removing said oil phase containing said oil soluble exudates and extractions.

25. (Original) The process according to claim 24 comprising the additional step of introducing said plant material to fresh media following the removal of the oil phase separation media.

26. (New) A process of separating oil soluble exudates and extractable materials from living plant tissue comprising:

supplying a source of cultivated plant tissue to a separation vessel;

introducing into said vessel a separation medium having at least two phases, wherein at least one phase is a liquid oil phase;

intermixing said at least two phases, said intermixing occurring in response to an intermittent oscillation of said separation vessel;

exposing said plant material to said intermixed separation medium, thereby extracting from said tissue material oil-soluble exudates and extracts into said intermixed separation medium;

separating said separation medium into at least two phases; and,

removing said oil phase containing said oil soluble exudates and extractions.

27. (New) The process according to claim 26 comprising the additional step of introducing fresh growth media to said plant tissue following the removal of the oil phase of the separation media.

28. (New) A process of propagating tissue comprising:

providing a supply of cultivated tissue within an aseptic container, said container having therein a substrate which supports said cultivated tissue, wherein said substrate is raised above the floor surface of the container;

introducing a liquid cultivation medium to the aseptic container, wherein the substrate supports the cultivated tissue above the liquid cultivation medium; and

periodically moving an edge of said container about a pivot supporting said container, wherein the periodic movement of said container supplies nutrients from said liquid cultivation medium to said cultivated tissue as a liquid film.

29. (New) The process according to claim 28, wherein the step of moving an edge of said container further includes raising one edge of said container.

30. (New) The process according to claim 29 wherein said step of periodically moving an edge of said container further comprises lowering an edge of said container.

31. (New) The process according to claim 28 wherein said step of periodically moving an edge of said container further comprises the step of alternately raising and lowering an edge of said container.

32. (New) The process according to claim 28 wherein said step of periodically moving an edge of said container further comprises providing a linkage arm operatively connected at one end to a platform supporting said container, said linkage arm further operatively engaging a cam, responsive to a drive motor.

33. (New) The process according to claim 32 wherein said drive motor is controlled by a timer.

34. (New) The process according to claim 28 wherein said step of periodically moving an edge of said container further comprises using a motor-driven cam and cam follower to move said container.

35. (New) A method of harvesting plant tissue comprising:

providing a supply of cultivated tissue within an aseptic container, said cultivated tissue being supported within said container by a substrate, wherein said substrate is raised above the floor surface of the container;

aseptically harvesting plant tissue from the cultivated tissue held in the container such that a portion of the cultivated tissue remains in the container;

introducing a liquid cultivation medium to the aseptic container following harvesting of plant tissue from the cultivated tissue, wherein the substrate supports the remaining cultivated tissue above the liquid cultivation medium; and

regenerating the harvested tissue from the cultivated tissue remaining in the container.

36. (New) The process according to claim 35, wherein the harvested plant tissue comprises leaf or shoot material harvested from the cultivated tissue.

37. (New) The process according to claim 35, further comprising repeating the process one or more times.

38. (New) The process according to claim 35, wherein the step of regenerating the harvested tissue from the cultivated tissue comprises periodically moving an edge of said container about a pivot supporting said container, wherein the periodic movement of said container supplies nutrients from said liquid cultivation medium to said cultivated tissue as a liquid film.

39. (New) A process of separating exudates and extractable materials from living plant tissue comprising:

providing a cultivated plant tissue within an aseptic container, said container having therein a substrate which supports the plant tissue, the substrate comprising a material capable of binding chemical exudates released from the plant tissue, wherein the substrate is raised above the floor surface of the container and supports the plant tissue above liquid media introduced to the container; and

eluting the chemical exudates from the substrate.

40. (New) The process according to claim 39, further comprising modifying the substrate with an affinity compound, wherein said affinity compound enhances the binding of chemical exudates released from the plant tissue to the substrate.

41. (New) The process according to claim 39, further comprising applying ionic or electrical charges to the substrate, wherein application of said charges enhances the binding of chemical exudates released from the plant tissue to the substrate.

42. (New) The process according to claim 39, wherein the substrate comprises a paper or a membrane.

43. (New) The process according to claim 42, wherein the substrate is a nylon filter mesh.

44. (New) A plant micropropagation system comprising:

a vessel adapted for receiving sterile growth media, the vessel comprising a substrate for supporting plant tissue, wherein the substrate is raised above the floor surface of the vessel to support the plant tissue above the growth media received therein;

a platform for supporting the vessel, the platform responsive to a pivot which engages said platform;

wherein, as the platform pivots, said growth media within the vessel travels in a wave between opposite sides of the vessel.

45. (New) The micropropagation system according to claim 44, wherein the substrate comprises a paper or a membrane.

46. (New) The micropropagation system according to claim 45, wherein the substrate comprises a nylon filter mesh membrane.

47. (New) The micropropagation system according to claim 44, wherein the substrate comprises a material capable of binding chemical exudates released from the plant tissue.

48. (New) The micropropagation system according to claim 44, wherein the platform pivots in response to a motor operatively coupled thereto.

49. (New) The micropropagation system according to claim 44 wherein said platform is translucent.

50. (New) The micropropagation system according to claim 44 wherein said platform defines a plurality of support rails.

51. (New) The micropropagation system according to claim 44 wherein said platform further supports a light source for said micropropagation system.

52. (New) The micropropagation system according to claim 44 wherein said system further comprises a linkage arm operatively connected at a first end to said platform, said linkage arm further operatively engaging along a second end a motor-driven cam.

53. (New) The micropropagation system according to claim 44 wherein said system further defines a dispenser in communication with said vessel, the dispenser in further periodic engagement with the pivoting platform, the engagement providing an operative force upon the dispenser.

54. (New) A micropropagation system comprising:

a vessel adapted for receiving sterile growth media and cultured tissue comprising embryonic tissue, the vessel comprising an interior separation matrix defining a plurality of openings for separating the embryonic tissue from the cultured tissue;

a platform for supporting the vessel, the platform responsive to a pivot which engages said platform;

wherein, as the platform pivots, said growth media within the vessel travels in a wave between opposite sides of the vessel and the embryonic tissue preferentially passes through the plurality of openings of the separation matrix.

55. (New) The micropropagation system according to claim 54, wherein the interior separation matrix is held within the vessel in an orientation parallel to the floor of the vessel.

56. (New) The micropropagation system according to claim 55, wherein the interior separation matrix comprises:

an innermost layer of a substrate,

a template positioned upon said substrate, said template defining a plurality of openings therethrough and providing communication with said substrate; and

a screen positioned above the substrate, said screen defining a plurality of openings.

57. (New) The micropropagation system according to claim 54, wherein the interior separation matrix is held within the vessel in an orientation perpendicular to the floor of the vessel.

58. (New) The micropropagation system according to claim 57, wherein the interior separation matrix comprises at least one baffle placed so as to intercept the wave motion of the growth media, wherein the at least one baffle defines a plurality of openings for separating the embryonic tissue from the cultured tissue.

59. (New) The micropropagation system according to claim 58, wherein the interior separation matrix comprises at least two baffles, each placed so as to intercept the wave motion of the growth media, wherein the at least two baffles define a gradation of smaller apertured baffles so as to create compartments within the vessel for separating embryonic tissue within the vessel according to size or stage of the embryos.